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[TED 17: Shipbuilding]



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“Knowledge is such a treasure which cannot be stolen”

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IS : 8215 - 1976

Indian Standard
**GLOSSARY OF TERMS FOR
SHIPS' PROPELLERS**

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GLOSSARY OF TERMS FOR SHIPS' PROPELLERS

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GLOSSARY OF TERMS FOR SHIPS' PROPELLERS

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 30 September 1976, after the draft finalized by the Shipbuilding Sectional Committee had been approved by the Marine, Cargo Movement and Packaging Division Council.

0.2 This standard is based on Draft International Standard ISO/DIS 3715 'Shipbuilding — Ship screw propellers — Vocabulary' issued by the International Organization for Standardization.

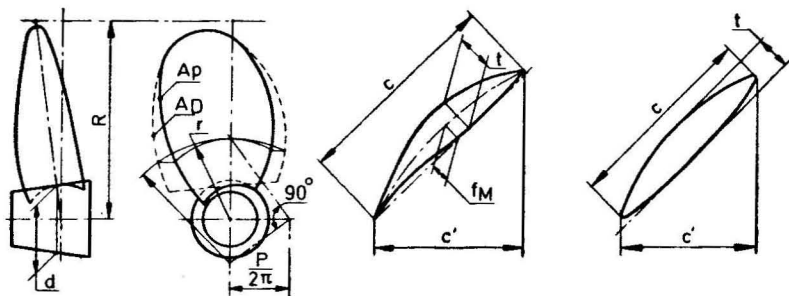
0.3 For SI units, reference shall also be made to SP : 5-1969*.

1. SCOPE

1.1 This standard deals with terminology for ships' propellers.

2. TERMINOLOGY

SL No.	SYMBOL	TERMS	DEFINITIONS	SYMBOL OF SI UNITS
2.1	A_D	Developed blade area	Developed blade area from the hub to the propeller tip according to a conventional method	m^2



*Guide to the use of international system (SI) units.

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SL No.	SYMBOL	TERMS	DEFINITIONS	SYMBOL OF SI UNITS
2.2	A _o	Disc area	$\frac{\pi D^2}{4}$	m ²
2.3	A _p	Projected blade area	Z/c'.dr from hub to the propeller tip, c' being the length of the spiral arc projected on the transverse plane	m ²
2.4	b	Span of an airfoil or hydrofoil	Tip to tip or support to tip when cantilevered	m
2.5	c	Chord length of an airfoil or hydrofoil	Distance between extreme points of a mean line	m
2.6	d	Boss or hub diameter	Measured at the intersection point of the generating line with the hub contour	m
2.7	D	Diameter of a propeller	—	m
2.8	f _M	Camber of an airfoil or hydrofoil	Maximum separation of median and nose-tail line	m
2.9	P	Propeller pitch in general	—	m
2.10	P...0.6 ...0.7	Geometrical pitch at cross-section...0.6...0.7 of maximum radii	—	m
2.11	R	Radius of a propeller	—	m
2.12	t	Maximum thickness of an airfoil or hydrofoil	Maximum thickness measured at the right angle with the mean line	m
2.13	Z	Number of blades of a propeller	—	—
2.14	α	Angle of attack	Angle between the direction of undisturbed flow and the surface or line referred to	—
2.15	α ₁	Hydrodynamic angle of attack	In relation to the position at zero lift	—

SL No.	SYMBOL	TERMS	DEFINITIONS	SYMBOL OF SI UNITS
2.16	α_0	Angle of attack at zero lift	In relation to the chord	—
2.17	μ	Pitch angle of screw propeller	$\mu = \arctg\left(\frac{P}{2\pi r}\right)$	—

The following terms are illustrated in Fig. 1.

2.18	Blade
2.19	Tip of blade
2.20	Root of blade
2.21	Fillets of blade-root
2.22	Leading edge
2.23	Trailing edge
2.24	Rake
2.25	Angle of rake
2.26	Outline of blade
2.27	Distance of blade outline beyond aft face of boss
2.28	Skewback
2.29	Projection of blade (axial)
2.30	Expanded blade area
2.31	Expanded blade outline
2.32	Generator line
2.33	Line of maximum blade thickness
2.34	Line of maximum blade thickness plotted from generator line
2.35	Maximum thickness
2.36	Aerofoil blade section
2.37	Circular back blade section
2.38	Hollow faced blade section

Sl No.	TERMS
2.39	Length of blade section between leading edge and generator line
2.40	Length of blade section between trailing edge and generator line
2.41	Length of blade section between leading edge and maximum thickness
2.42	Distance between maxi- mum thickness and generator line
2.43	Pressure side
2.44	Suction side
2.45	Face camber
2.46	Turn up of profile at leading edge
2.47	Turn up of profile at trailing edge
2.48	Leading edge with rounded nose
2.49	Leading edge with point- ed nose
2.50	Leading edge ice strengthened
2.51	Trailing edge ice strengthened
2.52	Type of anti singing edge (trailing edge)
2.53	Boss
2.54	Diameter of boss at for- ward end
2.55	Diameter of boss at after end
2.56	Bore in boss without key- way and without chamber

Sl No.	TERMS
2.57	Interrupted keyway
2.58	Full length keyway
2.59	Uninterrupted part key- way
2.60	Full chamber
2.61	Chamber with single key- block
2.62	Chamber with single key- block and block for balancing
2.63	Chamber with part key- block
2.64	Chamber with part key- block and part block for balancing
2.65	Recess for rope guard
2.66	Recess for tightening of propeller shaft
2.67	Filling holes and vent holes
2.68	Cone spigot

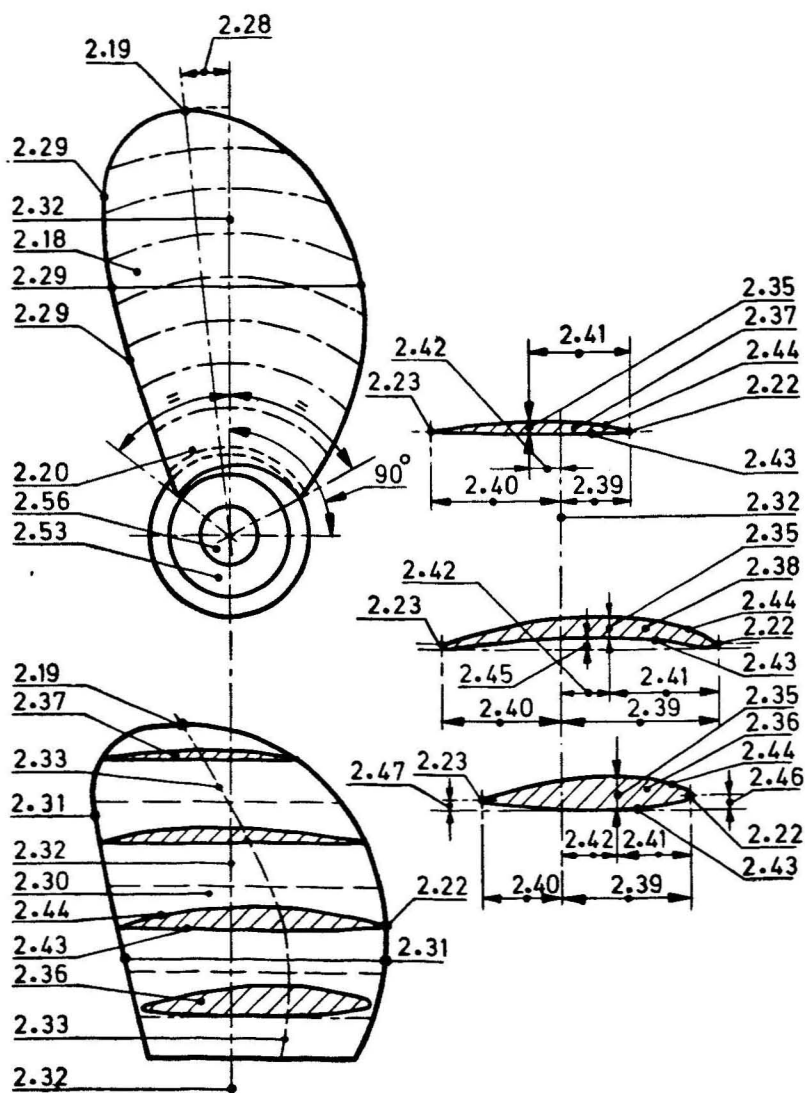


FIG. 1 ILLUSTRATIONS OF TERMS (Contd)

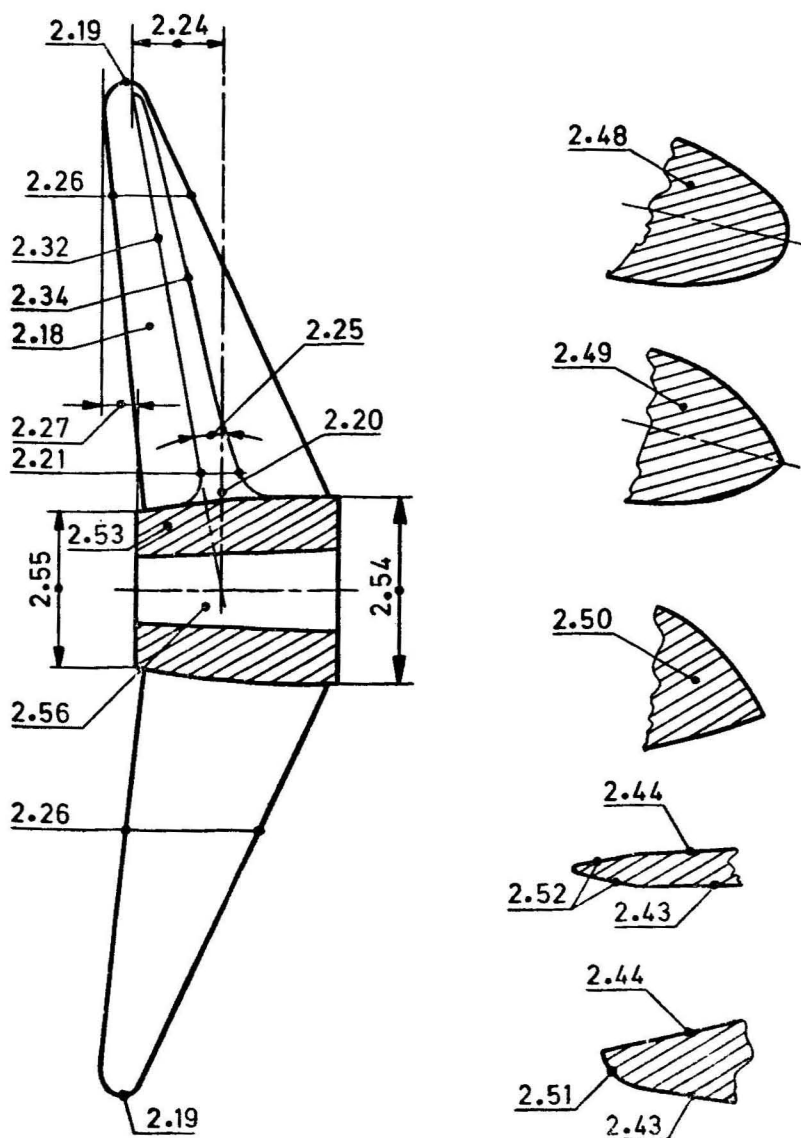


FIG. 1 ILLUSTRATIONS OF TERMS (Contd)

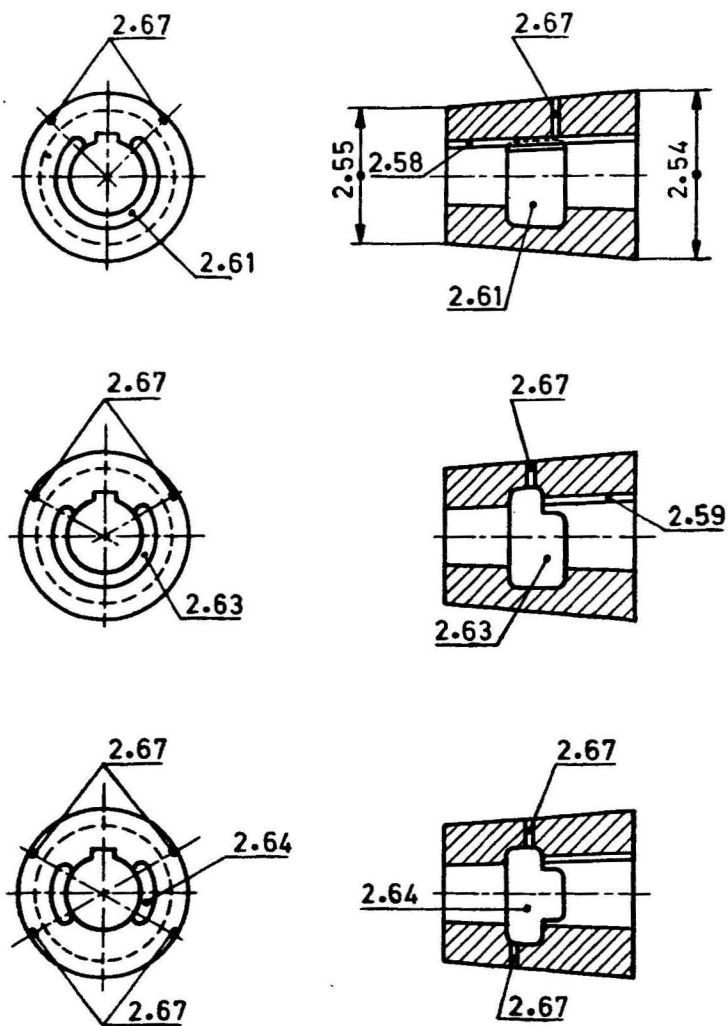


FIG. 1 ILLUSTRATIONS OF TERMS (Contd)

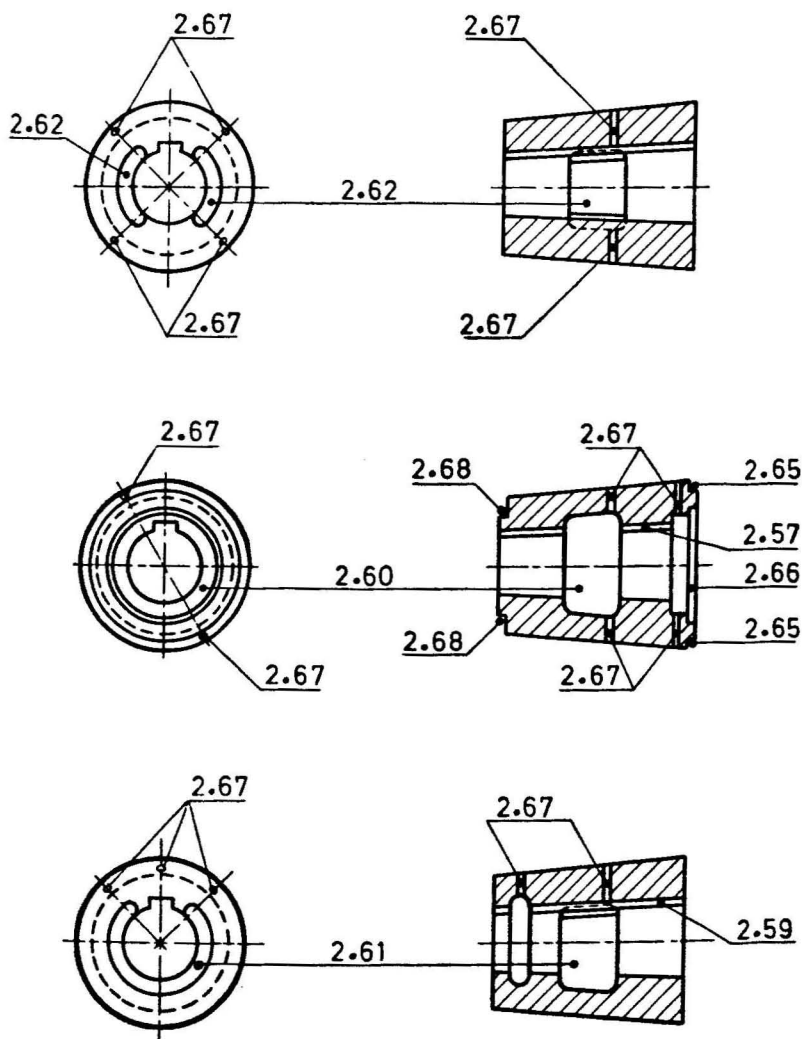


FIG. 1 ILLUSTRATIONS OF TERMS

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ON

GLOSSARY OF SHIPS' HYDRODYNAMIC TERMS

IS:

8214 Glossary of ships' hydrodynamic terms

8214 (Part I)-1976 Part I Basic quantities

8214 (Part II)-1976 Part II Ship geometry

8214 (Part III)-1976 Part III Resistance and propulsion

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8214 (Part VI)-1976 Part VI Strength and vibration

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